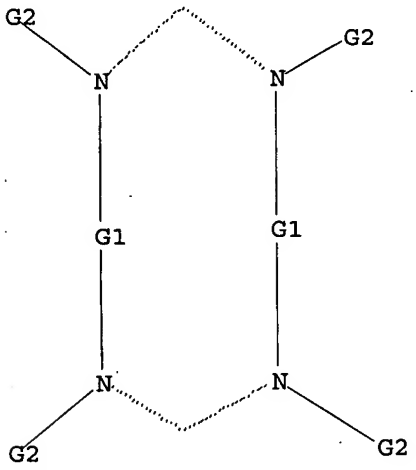
10/643,090

(FILE 'HOME' ENTERED AT 17:08:28 ON 19 NOV 2007)

FILE 'REGISTRY' ENTERED AT 17:08:39 ON 19 NOV 2007
L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Ag,Au,Cu

G2 C,H,S,N,P,Cb,Hy,Ak

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 17:09:21 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1885 TO ITERATE

100.0% PROCESSED 1885 ITERATIONS 9 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 35096 TO 40304
PROJECTED ANSWERS: 9 TO 360

L2 9 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 17:09:28 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 38565 TO ITERATE

100.0% PROCESSED 38565 ITERATIONS 125 ANSWERS
SEARCH TIME: 00.00.01

L3 125 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION

FULL ESTIMATED COST 172.55 172.76

FILE 'CAPLUS' ENTERED AT 17:09:38 ON 19 NOV 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

FILE COVERS 1907 - 19 Nov 2007 VOL 147 ISS 22
FILE LAST UPDATED: 18 Nov 2007 (20071118/ED)

=> s l3
L4 42 L3

=> d 1-42 bib abs

L4 ANSWER 1 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1296251 CAPLUS
DN 146:219393
TI Syntheses of Mixed-Ligand Tetranuclear Gold(I)-Nitrogen Clusters by Ligand Exchange Reactions with the Dinuclear Gold(I) Formamidinate Complex Au2(2,6-Me2Ph-form)2
AU Abdou, Hanan E.; Mohamed, Ahmed A.; Fackler, John P., Jr.
CS Laboratory for Molecular Structure and Bonding, Department of Chemistry, Texas A & M University, College Station, TX, 77843-3255, USA
SO Inorganic Chemistry (2007), 46(1), 141-146
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
OS CASREACT 146:219393
AB The reaction of the sterically crowded dinuclear Au(I) amidinate complex Au2(2,6-Me2Ph-form)2, 1, with less bulky bidentate N ligands gave tetranuclear Au(I) complexes. When the less bulky amidinate, K(4-MePh-form), A, was reacted with 1 in a 1:1 stoichiometric ratio, crystals containing equal amts. of the tetranuclear and dinuclear Au(I) aryl formamidinates, Au4(4-MePh-form)4 and Au2(2,6-Me2Ph-form)2, where 2,6-Me2Ph-form = B, were found in the same unit cell, 2·2THF: space group P.hivin.1, a 10.794(11), b 14.392(15), c 25.75(3) Å, α 82.564(17), β 85.443(18), γ 82.614(19)°. The reaction of K(4-MePh-form), A, and 1 in a 1:2 ratio (excess) produced the tetranuclear complex only, 3. The K salt of the exchanged bulky ligand, K(2,6-Me2Ph-form), formed as a byproduct. The reaction of the dinuclear Au(I) complex Au2(2,6-Me2Ph-form)2 with the 3,5-diphenylpyrazolate salt, K(3,5-Ph2pz), gave two tetranuclear mixed-ligand complexes, Au4(3,5-Ph2pz)2(2,6-Me2Ph-form)2·2THF, 4·2THF (space group P21/c, a 11.5747(19), b 25.497(4), c 21.221(3) Å, β 96.979(3)°) and Au4(3,5-Ph2pz)3(2,6-Me2Ph-form)·THF, 5·THF (space group P21/c, a 23.058(5), b 14.314(3), c 18.528(4) Å, β 90.94(3)°). The block crystals from the tetranuclear complex, 4·2THF, contain mixed ligands with each pyrazolate ring facing an amidinate ring. The tetranuclear mixed ligand complex, 5·THF, was isolated as needles with ligands alternating above and

below the Au4 plane. The two tetranuclear mixed-ligand complexes emit at 490 and 530 nm, resp., under UV excitation.
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1293002 CAPLUS
DN 146:175433
TI Trinuclear copper(II) complexes of some aza macrocycles
AU Anurag; Pande, Anil K.; Nayan, Ram
CS Department of Chemistry, Hindu College, Moradabad, 244001, India
SO Journal of Coordination Chemistry (2006), 59(17), 1963-1975
CODEN: JCCMBQ; ISSN: 0095-8972
PB Taylor & Francis Ltd.
DT Journal
LA English
AB The syntheses of Cu(II) complexes with neutral macrocyclic ligands 1,4,7,10,12,15,17,20,23,26,27,30-dodecaazadispiro[10·4·10.cn tdot.4]triacontane (DDST), 2,5,7,10,13,15,18,21,-23,26,29,32-dodecaazatricyclo[20·10·0·06,17]dotriacontane (DOCD) and 2,5,7,10,13,16,18,21,23,26,29,32-dodecaaza-1,6,17,22-tetrachlorotricyclo[20·10·0·06,17]dotriacontane (DTTD) derived from triethylenetetramine, 1,2-diaminoethane and chlorocarbons (carbon tetrachloride, 1,1,2,2-tetrachloroethane and hexachloroethane, resp.) were studied. The formation of [Cu3(DDST)]Cl6, [Cu3(DOCD)]Cl6 and [Cu3(DTTD)]Cl6·H2O and the ligand hydrochlorides DDST·12HCl and DOCD·12HCl are supported by elemental analyses, conductivity measurements and spectroscopic studies. Potentiometric equilibrium studies on DDST and DOCD hydrochlorides and their Cu complexes also support the structures.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1100468 CAPLUS
DN 146:449362
TI Mixed-ligand complex formation equilibria of CuII with biguanide in presence of glycine as the auxiliary ligand
AU Barman, Tannistha Roy; Mukherjee, G. N.
CS Department of Chemistry, University College of Science, University of Calcutta, Kolkata, 700 009, India
SO Journal of Chemical Sciences (Bangalore, India) (2006), 118(5), 411-418
CODEN: JCSBB5
PB Indian Academy of Sciences
DT Journal
LA English
AB Equilibrium study on the mixed ligand complex formation of CuII with biguanide(Bg) and glycine (HG), indicated the formation of the complexes: Cu(Bg)2+, Cu(Bg)22+, Cu(Bg-H)(Bg)+, Cu(Bg-H)2, Cu(Bg)(OH)+, Cu(Bg-H)(OH); Cu(G)+, Cu(G)(OH), Cu(G)2; Cu(G)(Bg)+, Cu(G)(Bg-H); (G)Cu(Bg)Cu(G)2+, (G)Cu(Bg-H)Cu(G)+, and (G)Cu(Bg-2H)Cu(G). From the deprotonation consts. of coordinated biguanide (Bg) in the complexes Cu(Bg)(OH)+, Cu(Bg-H)(Bg)+ and Cu(G)(Bg)+, the Lewis basicities of the coordinated ligand species (Bg-H)-, OH- and glycinate (G-) were found to be of the order: (Bg-H)- >> OH- > G-. Bridging (N1-N4, N2-N5) tetradentate mode of coordination by biguanide species Bg, (Bg-H)- and (Bg-2H)2- was indicated from the occurrence of biguanide-bridged dinuclear mixed ligand complexes (G)Cu(Bg)Cu(G)2+, (G)Cu(Bg-H)Cu(G)+, (G)Cu(Bg-2H)Cu(G) in the complexation equilibrium
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:391152 CAPLUS

DN 146:133856
TI Synthesis and spectral studies of a novel 20-membered unsymmetrical dinucleating [N8] macrocycle and its bimetallic complexes, M2LCln(ClO4)2 (n = 2, M = Co, Ni or Cu; n = 4, M = Cr or Fe)
AU Siddiqi, Z. A.; Khalid, M.; Khan, M. M.
CS Division of Inorganic Chemistry, Department of Chemistry, Aligarh Muslim University, Aligarh, 202002, India
SO Polish Journal of Chemistry (2006), 80(3), 377-386
CODEN: PJCHDQ; ISSN: 0137-5083
PB Polish Chemical Society
DT Journal
LA English
OS CASREACT 146:133856
AB A 20-membered octaaza unsym. Schiff base macrocycle, 6,10,16,20-tetramethyl-7,9,17,19-tetraphenyl[1,5,7,9,11,15,17,19]octaazacycloeicosa-5,10,15,20-tetraene dihydroperchlorate (L·2HClO4), was obtained as an off-white amorphous solid by refluxing a mixture of 1,3-diaminopropane, N-acetylaniline and excess HCHO in the presence of HClO4 in EtOH, and characterized by physicochem. and spectroscopic studies. Its reactions with transition metal salts have afforded air stable solids, M2LCln(ClO4)2 (n = 2, M = Co, Ni or Cu and n = 4, M = Cr or Fe). Magnetic moment, IR and UV-visible spectroscopic data confirm encapsulation of metal ions through chelation from unsym. aza groups and addnl. coordination by counterion ClO4- which maintains hexa coordination around the metal ions. A low-spin distorted square-pyramidal geometry with distorted C4v symmetry of the basal plane was indicated for the Co2+ complex. EPR data on the Cu2+ complex indicated a tetragonal distortion with g.dblvert. > g⊥ > 2.0 and G < 4.0 with orbital reduction factor K⊥ > K.dblvert. favoring the presence of exchange coupling around the Cu2+ environment.
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

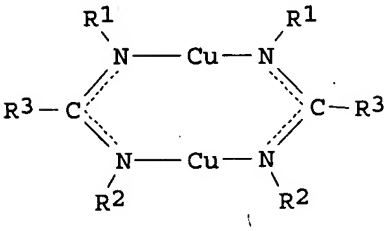
L4 ANSWER 5 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1335336 CAPLUS
DN 144:44589
TI Copper(I) amidinate compounds useful as deposition precursors of copper thin films in manufacture of an integrated circuit
IN Xu, Chongying; Borovik, Alexander; Baum, Thomas H.
PA Advanced Technology Materials, Inc., USA
SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005281952	A1	20051222	US 2004-869532	20040616
	US 7166732	B2	20070123		
	WO 2006009590	A1	20060126	WO 2005-US8416	20050314
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	EP 1765834	A1	20070328	EP 2005-725521	20050314
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 2005283012	A1	20051222	US 2005-149045	20050609

	US 7241912	B2	20070710		
	KR 2007029758	A	20070314	KR 2006-727596	20061228
	US 2007116876	A1	20070524	US 2007-626363	20070123
PRAI	US 2004-869532	A	20040616		
	WO 2005-US8416	W	20050314		
	US 2005-149045	A1	20050609		

OS CASREACT 144:44589; MARPAT 144:44589

GI



I

AB Cu(I) amidinate precursors I (R1, R2 = H, C1-6 alkyl, C3-7 cycloalkyl, aryl, hydrocarbyl silyl derivs., R3 = as above or various amino derivs.) are claimed and may be used for forming Cu thin films on substrates with improved adhesion in the manufacture of an integrated circuit. Methods of depositing Cu on substrates with the Cu(I) amidinate precursors include CVD or atomic layer deposition processes. Complexes I [R1-R3 = i-Pr (1); R1 = R2 = i-Pr, R3 = NMe2 (2)] were prepared and characterized by NMR and TG/DSC. ORTEPs are provided for both complexes (no addnl. data for 1, Cu...Cu distance = 2.4152(17) Å for 2).

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1283948 CAPLUS
DN 144:204551
TI Mercury(II) Cyanide Coordination Polymer with Dinuclear Gold(I) Amidinate. Structure of the 2-D [Au2(2,6-Me2-formamidinate)2]·2Hg(CN)2·2THF Complex
AU Mohamed, Ahmed A.; Abdou, Hanan E.; Fackler, John P., Jr.
CS Laboratory for Molecular Structure and Bonding, Department of Chemistry, Texas A&M University, College Station, TX, 77843, USA
SO Inorganic Chemistry (2006), 45(1), 11-13
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
OS CASREACT 144:204551
AB The dinuclear Au(I) amidinate complex [Au2(Me2-form)2], 1, (Me2-form = 2,6-dimethylformamidinate) reacts with Hg(CN)2 to form a 2-dimensional structure, 1·2Hg(CN)2·2THF. Each Au center interacts with two Hg(CN)2 mols. The Au···Au distance increases from 2.7 Å in the starting dinuclear complex to 2.9 Å in the adduct. The Au centers are connected to four N atoms with Au-N distances in the range 2.13-2.51 Å. The cyanide stretch is shifted from 2192 cm-1 in the Hg(CN)2 to 2147 cm-1 in the adduct.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1118010 CAPLUS
DN 144:58657
TI How Bulky Is a Bulky Ligand: Energetic Consequences of Steric Constraint in Ligand-Directed Cluster Assembly and Disassembly

AU Jiang, Xuan; Bollinger, John C.; Lee, Dongwhan
CS Department of Chemistry, Indiana University, Bloomington, IN, 47405, USA
SO Journal of the American Chemical Society (2005), 127(45), 15678-15679
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 144:58657
AB Steric tuning of N-aryl groups of homologous amidinate ligands affords discrete dimeric and tetrameric copper(I) clusters in solid state, but they undergo dynamic dimer-dimer and tetramer-dimer interconversion in solution A delicate interplay between steric constraint and mech. stability shapes the reaction coordinate of this process. Thermodn. and kinetic parameters dictating such cluster assembly and disassembly immediately suggest a means to exptl. quantify energies that are associated with ligand steric bulk.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1011201 CAPLUS
DN 144:183409
TI Synthesis and characterization of nickel(II) and copper(II) complexes of some large-ring macrocycles derived from diethylenetriamine
AU Anurag; Pandey, Anil K.; Nayan, Ram
CS Department of Chemistry, Hindu College, Moradabad, 244 001, India
SO Journal of the Indian Chemical Society (2005), 82(8), 732-736
CODEN: JICSAH; ISSN: 0019-4522
PB Indian Chemical Society
DT Journal
LA English
OS CASREACT 144:183409
AB Diethylenetriamine condenses with CCl4, Cl2C:CCl2, 1,1,2,2-tetrachloroethane, CHCl3 and CH2Cl2 in the presence of Ni(II) ions to produce Ni complexes with macrocyclic hexaaza ligands, 8,8,16,16-tetrachloro-1,4,7,9,12,15-hexaazacyclohexadecane (HTCH), 8,9,17,18-tetrachloro-1,4,7,10,13,16-hexaazacyclooctadeca-8,17-diene (HTOD), 8,9,17,18-tetrachloro-1,4,7,10,13,16-hexaazacyclooctadecane (HTCO), 8,16-dichloro-1,4,7,9,12,15-hexaazacyclohexadecane (DHCH) and 1,4,7,9,12,15-hexaazacyclohexadecane (HACH), resp. The template condensation of diethylenetriamine and CHCl3 in presence of Cu(II) ions yields a cage-macrocycle, 2,5,8,10,13,16,17,20,23-nonaazabicyclo[7.7.7]tricosane (NACT). A blue condensed product of diethylenetriamine, CH2Cl2 and Cu(II) ion could not be crystallized from the reaction mixture The isolated complexes [Ni2(HTCH)(H2O)6]Cl4.7H2O, [Ni2(HTOD)(H2O)6]Cl4, [Ni2(HTCO)(H2O)6]Cl4, [Ni2(DHCH)(H2)6]Cl4.13H2O, [Ni2(HACH)(H2O)6]Cl4.10H2O and [Cu3(NACT)(H2O)3]Cl6, and the metal-free ligand NACT.9HCl were characterized by elemental analyses, conductivity measurements, m.p. and spectroscopic studies.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:761758 CAPLUS
DN 143:378489
TI Bis(triazacyclohexane) sandwich complexes of (CuI)2, CuII and ZnII: complexes with cuprophilic attraction between two cationic copper(I) leading to unusual reactivity with dioxygen
AU Koehn, Randolf D.; Pan, Zhida; Haufe, Matthias; Kociok-Koehn, Gabriele
CS Department of Chemistry, University of Bath, Bath, BA2 7AY, UK
SO Dalton Transactions (2005), (16), 2793-2797
CODEN: DTARAF; ISSN: 1477-9226
PB Royal Society of Chemistry
DT Journal

LA English
OS CASREACT 143:378489
AB As the 1st 1st-row transition metal complexes having six tertiary amine donor groups, bis(triazacyclohexane) sandwich complexes [L2M](BF4)2 (L = benzyl- or p-fluorobenzyl-triazacyclohexane, M = Cu or Zn) were obtained by the protonolysis of Et2Zn in the presence of L or by reaction of [Cu(MeCN)4](BF4) with L in CH2Cl2 and subsequent air oxidation via an unprecedented CuI2 sandwich complex containing a short Cu-Cu contact.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:168917 CAPLUS
DN 143:229942
TI Oxidative addition of methyl iodide to dinuclear gold(I) amidinate complex: Schmidbaur's breakthrough reaction revisited with amidinates
AU Abdou, Hanan E.; Mohamed, Ahmed A.; Fackler, John P., Jr.
CS Laboratory for Molecular Structure and Bonding, Department of Chemistry, Texas A&M University, College Station, TX, 77843-3255, USA
SO Zeitschrift fuer Naturforschung, B: Chemical Sciences (2004), 59(11/12), 1480-1482
CODEN: ZNBSEN; ISSN: 0932-0776
PB Verlag der Zeitschrift fuer Naturforschung
DT Journal
LA English
OS CASREACT 143:229942
AB Oxidative addition of Me iodide, CH3I, to the dinuclear gold(I) amidinate produces Au(II) metal-metal bonded complex. Reaction of [μ-N,N'-bis(2,6-dimethylphenyl)formamidinate]digold, [Au2(μ-o-Me2-form)2] with MeI in THF generates a metal-metal bonded Au(II) product, formulated as [MeAu(μ-o-Me2-form)2AuI], in quant. yield under nitrogen at 0° and in absence of light. The product is characterized by 1H NMR, elemental anal. and preliminary x-ray crystallog.
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:160660 CAPLUS
DN 142:269787
TI Class of volatile compounds for the deposition of thin films of metals and metal compounds
IN Denk, Michael K.; Fournier, Sebastien
PA Can.
SO U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2005042372	A1	20050224	US 2003-643090	20030819
PRAI US 2003-643090		20030819		

OS MARPAT 142:269787
AB An organometallic complex, containing O free organic ligands, for the deposition of a metal, preferably Cu, Ag or Au, and preferably by way of CVD, is given. The organometallic complex [(Do)nMLx]k where M is a metal preferably selected from the group consisting of Cu, Ag and Au; Do is selected from the group comprising ethers, phosphines, olefins, sulfides, pyridines, carbonyl, hydroxyl, cyclopentadiene, benzene derivs., allyls, alkyls, amines, polyamines, aniline derivs., cyclooctadiene and combinations thereof; n is an integer having a value from 0 to 4; k is an integer having a value from 1 to 4; x is an integer having a value from 1 to 4; and L is an amidinate ligand of the formula R1-N=C(R2)-N--R3

.dblharw. R1-N--C(R2)=N-R3 where R1, R2 and R3 are selected from the group consisting of alkyls, allyls, aryls, heteroaryls, H, nonmetals and metalloids; and where R1, R2 and R3 are different or the same.

L4 ANSWER 12 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:157772 CAPLUS
DN 142:384519
TI Copper clusters built on bulky amidinate ligands: spin delocalization via superexchange rather than direct metal-metal bonding
AU Jiang, Xuan; Bollinger, John C.; Baik, Mu-Hyun; Lee, Dongwhan
CS Department of Chemistry and School of Informatics, Indiana University, Bloomington, IN, USA
SO Chemical Communications (Cambridge, United Kingdom) (2005), (8), 1043-1045
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 142:384519
AB Entry into a new class of tetra- and dicopper clusters was assisted by a fine steric tuning of bulky amidinate ligands that provide spin-delocalizing superexchange pathways in class III mixed-valence clusters, the properties of which are best understood without invoking metal-metal bonding. Thus the amidinate ligand N,N'-diphenylbenzamidine (LH) and the bulkier ligand N,N'-bis(2,6-dimethylphenyl)benzamidine (L'H) were used to prepare [Cu4L4] and [Cu2L'2], and mixed-valence [Cu2L'2(MeCN)2](SbF6) and [Cu2L'2(THF)2](SbF6), which were all characterized by x-ray crystallog.
RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:93020 CAPLUS
DN 142:347479
TI Synthesis and Characterization of Copper(I) Amidinates as Precursors for Atomic Layer Deposition (ALD) of Copper Metal
AU Li, Zhengwen; Barry, Sean T.; Gordon, Roy G.
CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA
SO Inorganic Chemistry (2005), 44(6), 1728-1735
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
OS CASREACT 142:347479
AB Cu(I) amidinates [(R'NC(R)NR'')Cu]2 (R' and R'' = Pr, iso-Pr, Bu, iso-Bu, sec-Bu, tert-butyl; R = Me, n-butyl) were synthesized and characterized. These compds. are planar dimers, bridged by nearly linear N-Cu-N bonds. Their properties (volatility, low m.p., high thermal stability, and self-limited surface reactivity) are well-suited for atomic layer deposition (ALD) of Cu metal films that are pure, highly conductive, conformal, and strongly adherent to substrates.
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1089858 CAPLUS
DN 142:198162
TI Synthesis and X-ray Structures of Dinuclear and Trinuclear Gold(I) and Dinuclear Gold(II) Amidinate Complexes
AU Abdou, Hanan E.; Mohamed, Ahmed A.; Fackler, John P., Jr.
CS Laboratory for Molecular Structure and Bonding, Department of Chemistry, Texas A & M University, College Station, TX, 77843-3255, USA
SO Inorganic Chemistry (2005), 44(2), 166-168
CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society
DT Journal
LA English
OS CASREACT 142:198162
AB The structures of the trinuclear gold(I), [Au3(2,6-Me2-form)2-(THT)Cl], the dinuclear [Au2(2,6-Me2-form)2], and the oxidative-addition product [Au2(2,6-Me2-form)2Cl2] formamidinate complexes are reported. The trinuclear complex is stable with gold-gold distances 3.01 and 3.55 Å. The gold-gold distance in the dinuclear complex decreases upon oxidative-addition with halogens from 2.7 to 2.5 Å, similar to observations made with the dithiolates and ylides.
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:603150 CAPLUS
DN 141:270226
TI Silver-109 NMR Spectroscopy of Inorganic Solids
AU Penner, Glenn H.; Li, Wenli
CS Department of Chemistry, University of Guelph, Guelph, ON, N1G 2W1, Can.
SO Inorganic Chemistry (2004), 43(18), 5588-5597
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
AB In this study the 109Ag NMR spectra of the following solid inorg. silver-containing compds. were investigated: AgNO3, AgNO2, Ag2SO4, Ag2SO3, AgCO3, Ag3PO4, AgCl, AgBr, AgI, AgSO3CH3, silver p-toluenesulfonate, NaAg(CN)2, KAg(CN)2, K3Ag(CN)4, Me4NAgCl2, silver diethylthiocarbamate, silver lactate, silver acetate, silver citrate, and bis[(N,N1-di-tert-butylformamidinato)silver(I)]. The magic angle spinning (MAS) spectra of all compds. were obtained. In some cases, when protons were available, the 1H to 109Ag cross-polarization (CP) technique was used to enhance the signal and shorten the exptl. relaxation delay. It was possible to obtain slow MAS (or CP/MAS) or non-spinning spectra for 10 samples, allowing the determination of the principal components of the 109Ag chemical shift (CS) tensors.
The isotropic chemical shifts and the CS tensors are discussed in light of the available crystal structures. The need for an accepted standard for referencing 109Ag chemical shifts and the use of AgSO3CH3 as a CP setup sample are also discussed.
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:453414 CAPLUS
DN 141:14815
TI Atomic layer deposition using metal amidinates
IN Gordon, Roy G.; Lim, Booyong S.
PA President and Fellows of Harvard College, USA
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004046417	A2	20040603	WO 2003-US36568	20031114
WO 2004046417	A3	20050310		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,

UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003290956	A1	20040615	AU 2003-290956	20031114
EP 1563117	A2	20050817	EP 2003-783541	20031114
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1726303	A	20060125	CN 2003-80106327	20031114
JP 2006511716	T	20060406	JP 2004-570408	20031114
US 2006141155	A1	20060629	US 2006-534687	20060131
PRAI US 2002-426975P	P	20021115		
US 2003-463365P	P	20030416		
WO 2003-US36568	W	20031114		

OS MARPAT 141:14815

AB Metal films are deposited with uniform thickness and excellent step coverage. Cu metal films were deposited on heated substrates by the reaction of alternating doses of Cu(I) N,N'-diisopropylacetamidinate vapor and H gas. Co metal films were deposited on heated substrates by the reaction of alternating doses of Co(II) bis(N,N'-diisopropylacetamidinate) vapor and H gas. Nitrides and oxides of these metals can be formed by replacing the H with NH3 or H2O vapor, resp. The films have very uniform thickness and excellent step coverage in narrow holes. Suitable applications include elec. interconnects in microelectronics and magnetoresistant layers in magnetic information storage devices.

L4 ANSWER 17 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:104688 CAPLUS
DN 141:198979
TI Application of thermogravimetric analysis for characterisation of bisdithiocarbamate of urea and its copper(II) complex
AU Bajpai, Anjali; Tiwari, Shuchi
CS Department of Chemistry, Centre of Excellence for Higher Education in Science, Government Model Science College (Autonomous), Jabalpur, 482 001, India
SO Thermochimica Acta (2004), 411(2), 139-148
CODEN: THACAS; ISSN: 0040-6031
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 141:198979

AB A novel disodium salt of bisdithiocarbamate of urea (UBDT) and its Cu(II) complex Cu(II)UBDT were prepared and characterized by elemental anal., IR, electronic and NMR spectroscopy, solution conductivity measurements and TGA. Water-soluble UBDT possessed good chelating ability for various metal ions. Its Cu(II) complex, Cu(II)UBDT is an amorphous, intractable solid having polymeric structure of formula (NaL)2Cu3Ac4 (L = UBDT dianion). The ligand and the complex possess high thermal stability. UBDT cyclized on heating to yield a heterocyclic compound (X, probably highly stabilized by resonance) which also showed coordinating tendency for various metal ions.

RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 18 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:65846 CAPLUS
DN 140:313884
TI Syntheses, structures and photoluminescent properties of silver(I) complexes with in situ generated hexahydropyrimidine derivatives
AU Ren, Chun-Xia; Ye, Bao-Hui; Zhu, Hai-Liang; Shi, Jian-Xin; Chen, Xiao-Ming
CS School of Chemistry and Chemical Engineering, Sun Yat-Sen University, Guangzhou, 510275, Peop. Rep. China
SO Inorganica Chimica Acta (2004), 357(2), 443-450
CODEN: ICHAA3; ISSN: 0020-1693

PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 140:313884
AB Two new linear and V-shaped tetradentate ligands, 1,4-bis(2-hexahydropyrimidyl)benzene (L) and 1,3-bis(2-hexahydropyrimidyl)benzene (L'), and their Ag(I) complexes, [Ag2L(μ-ONO2)](NO3)·2H2O (1), [Ag2L(μ-pn)](NO3)2 (2), [Ag2L(μ-pn)](ClO4)2 (3) and [Ag4L'2(H2O)](NO3)4·5H2O (4) (pn = 1,3-diaminopropane) were synthesized in situ and structurally characterized by single-crystal x-ray diffraction. 1 And 2 were obtained from the same reaction solution but different crystallization conditions. 1 Is an 1-dimensional chain featuring cuboid tetranuclear Ag(I) units interconnected through monoat. nitrate bridges. Both 2 and 3 are ribbon-like helical compds. in which each L ligand acts in a tetradentate bridging mode to interconnect four metal atoms, and each pn ligand functions in a bidentate bridging mode to link a pair of metal atoms. 4 Shows a truncated square-pyramidal tetranuclear motif arose by the V-shaped L' ligand. Close Ag···Ag sepns. (2.901-2.939 A) assisted by bis(hexahydropyrimidine) bridges were observed in 1 and 4, indicating metal-metal interactions. Photoluminescence of 1-4 also was observed in the solid state and solution at room temperature and low temperature, resp.
RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 19 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:959681 CAPLUS
DN 141:150009
TI Ni(II) and Cu(II) complexes with polydentate urea-based ligand
AU Dumitru, Florina; Barboiu, M.; Rus, Adina; Udrea, Silvia; Guran, Cornelia
CS Department of Inorganic Chemistry, "Politehnica" University Bucharest, Bucharest, 78126, Rom.
SO Buletinul Stiintific al Universitatii "Politehnica" din Timisoara Romania, Seria Chimie si Mediului (2000), 45(2), 275-280
CODEN: BSIMFG; ISSN: 1224-6018
PB Universitatii "Politehnica" din Timisoara
DT Journal
LA English
OS CASREACT 141:150009
AB A new polytopic ligand (1-methyl-3-(6,7,9,10,12,13,15,16-octahydro-5,8,11,14,17-pentaoxabenzocyclopentadecan-2-yl)urea) (L) was prepared and characterized. [CuLCl2]2, [CuL2Cl2], [NiL(OH2)2Cl2], [NiL2(OH2)2Cl2] were prepared and characterized by molar conductivity, ESR, IR and electronic spectra.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 20 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:840456 CAPLUS
DN 140:52159
TI Synthesis and Characterization of Volatile, Thermally Stable, Reactive Transition Metal Amidinates
AU Lim, Booyong S.; Rahtu, Antti; Park, Jin-Seong; Gordon, Roy G.
CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA
SO Inorganic Chemistry (2003), 42(24), 7951-7958
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
OS CASREACT 140:52159
AB Homoleptic metal amidinates [M(R-R'AMD)n]x (R = iPr, tBu, R' = Me, tBu) were prepared and structurally characterized for the transition metals Ti,

V, Mn, Fe, Co, Ni, Cu, Ag, and La. In oxidation state 3, monomeric structures were found for Ti(III), V(III), and La(III). Bridging structures were observed for the metals in oxidation state 1; Cu(I) and Ag(I) are held in bridged dimers, and Ag(I) also formed a trimer that cocrystd. with the dimer. Metals in oxidation state 2 occurred in either monomeric or dimeric form. Metals with smaller ionic radii (Co, Ni) were monomeric. Larger metals (Fe, Mn) gave monomeric structures only with the bulkier tert-butyl-substituted amidinates, while the less bulky isopropyl-substituted amidinates formed dimers. The new compds. have properties well-suited for use as precursors for atomic layer deposition (ALD) of thin films, such as high volatility, high thermal stability, and high and properly self-limited reactivity with H2 depositing pure metals, or H2O vapor depositing metal oxides.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 21 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:537620 CAPLUS
DN 139:390065
TI Dinuclear copper(I) complexes with oxalic amidine-type ligands. The connection between solid state structures and steric factors
AU Boettcher, Lars; Walther, Dirk; Goerls, Helmar
CS Institut fuer Anorganische und Analytische Chemie, Friedrich-Schiller-Universitaet, Jena, Germany
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (2003), 629(7-8), 1208-1216
CODEN: ZAACAB; ISSN: 0044-2313
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA German
OS CASREACT 139:390065
AB Oxalic amidines R1N=C(NHR2)C(NHR2)=NR1 (H2L: R1 = R4 = 4-tolyl; H2L1: R1 = R2 = mesityl; H2L2: R1 = 4-tolyl, R2 = mesityl) react upon deprotonation with [(Ph3P)3CuCl] to form binuclear complexes of the type [(Ph3P)xCu2]L3 (I: x = 4, H2L3 = H2L; II: x = 2, H2L3 = H2L1; III: x = 3, H2L3 = H2L2) containing a planar oxalamidinate bridge. For I, bearing the sterically less demanding ligand L results a tetrahedral configuration of both Cu(I) centers, each coordinating 2 Ph3P mols. Compound II containing the sterically demanding oxalamidinate ligand L1 coordinates only 1 phosphine per Cu(I) which has trigonal-planar coordination. Compound III contains 2 Cu(I) centers of different coordination modes: 1 metal atom is surrounded by one phosphine ligand and those N donor atoms, resp., which bear the bulky mesityl substituents. The Cu(I) on the opposite side of the oxalamidinate bridge achieves tetrahedral environment by coordination of 2 phosphines. [(Me3P)xCu2]L (IV, x = 4 and V, x = 2) have a tetrahedral and trigonal-planar environment, resp. Both, L1 and L2 form only [Cu(PMe3)2L3] (VI and VII, resp.,) with trigonal-planar coordination of the central atom. The structures of I-VI in the solid state were determined by x-ray diffraction anal. There is a close connection between the steric parameters of the ligands (N-aryl groups, substituents in R3P) and the structures of the binuclear complexes.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 22 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:448280 CAPLUS
DN 139:355511
TI Photophysical characterization of substituted derivatives of N,N-diarylformamidinodicopper(I)
AU Rivard, Dominic; Drouin, Marc; Harvey, Pierre D.
CS Departement de Chimie de l'Universite de Sherbrooke, Sherbrooke, J1K 2R1, Can.
SO Canadian Journal of Analytical Sciences and Spectroscopy (2003), 48(1), 7-14

CODEN: CJASFA; ISSN: 1205-6685
PB Spectroscopy Society of Canada
DT Journal
LA French
AB Preliminary data on the photophys. properties of Cu2(arylNCHNaryl)2, with aryl = m-CF3C6H4 (1) and p-MeOC6H4 (2) are reported, and the lowest energy excited states were also assigned. The quantum yields (ΦF) and lifetimes (τF) for these strongly fluorescent species are 1: ΦF = 0.12 ± 10%, τF = 2.73 ± 0.01 ns, 2: ΦF = 0.15 ± 10%, τF = 3.08 ± 0.01 ns. The lowest energy absorption bands (1: λmax = 284 and 314 nm (shoulder); 2: λmax = 290 and 320 nm (shoulder)), and the fluorescence are assigned to intraligand π-π* electronic transitions. The excited state distortions (ΔQ) calculated from the vibrational anal. are 0.094 and 0.12 Å based upon a single Franck-Condon active mode model, which are 1275 and 1317 cm-1, for 1 and 2, resp. An x-ray structure for a related derivative (3; aryl = 2,4,6-(CH)3C6H2) was obtained, in an attempt to rationalize these large ΔQ values. Probably steric hindrance induces an important torsion between the aryl and Cu2(NCHN)2 planes, decreasing the π-delocalization.
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 23 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:375891 CAPLUS
DN 139:315991
TI Trimethyltriazacyclohexane as bridging ligand for triangular Cu3 units and C-H hydride abstraction into a Cu6 cluster
AU Koehn, Randolf D.; Pan, Zhida; Mahon, Mary F.; Kociok-Koehn, Gabriele
CS Department of Chemistry, University of Bath, Bath, BA2 7AY, UK
SO Chemical Communications (Cambridge, United Kingdom) (2003), (11), 1272-1273
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 139:315991
AB Reaction of [Cu(MeCN)4](BF4) with N,N',N''-trimethyl-1,3,5-triazacyclohexane in CH2Cl2 leads to two Cu6 clusters containing the triazacyclohexane as a ligand to triangular Cu3 units with the abstraction and incorporation of chloride and hydride. Mol. structures of the clusters were determined by x-ray crystallog.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 24 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:502100 CAPLUS
DN 137:272340
TI Synthesis and structural characterization of the dinuclear tetrakis(guanidino)bis(2-cyanoguanidine)dicopper(II) complex
AU Ammar, Mehrzia Krimi; Ben Amor, Fatma; Jouini, Tahar; Driss, Ahmed
CS Faculte des Sciences, Departement de Chimie, Campus Universitaire, Tunis, 1060, Tunisia
SO Journal of Chemical Crystallography (2002), 32(3-4), 87-89
CODEN: JCCYEV; ISSN: 1074-1542
PB Kluwer Academic/Plenum Publishers
DT Journal
LA English
OS CASREACT 137:272340
AB The synthesis and crystal structure of tetrakis(guanidino)bis(2-cyanoguanidine)dicopper(II), Cu2(C2H4N4)2(CH3N3)4, are reported. It crystallizes in the monoclinic system of space group P21/c, with a 8.459(1), b 15.481(3), c 8.714(2) Å, β 110.60(1)°, and Z = 2. The centrosym. mol. structure of Cu2(C2H4N4)2(CH3N3)4 comprises a

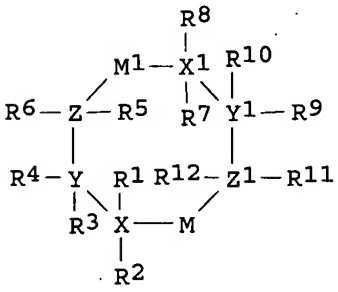
tetrakis(guanidino)-bridged dinuclear Cu(II) core with axially located cyanoguanidine moieties.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 25 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:747167 CAPLUS
DN 135:273081
TI Preparation of metal volatile precursors for deposition of metals and metal-containing films
IN Morman, John Anthony Thomas; Roberts, David Allen; Farnia, Morteza
PA Air Products and Chemicals, Inc., USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1142894	A2	20011010	EP 2001-108053	20010329
	EP 1142894	A3	20030423		
	EP 1142894	B1	20050112		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 2002013487	A1	20020131	US 2001-791409	20010222
	TW 490502	B	20020611	TW 2001-90107555	20010329
	AT 286902	T	20050115	AT 2001-108053	20010329
	JP 2002069088	A	20020308	JP 2001-104544	20010403
	JP 3593051	B2	20041124		
	HK 1039944	A1	20050805	HK 2002-101237	20020220
PRAI	US 2000-194285P	P	20000403		
	US 2001-791409	A	20010222		

OS CASREACT 135:273081; MARPAT 135:273081
GI



I

AB This invention is directed to a group of novel homologous eight membered ring compds. I having a metal, such as copper, reversibly bound in the ring and containing carbon, nitrogen, silicon and/or other metals. A structural representation of the compds. I (M, M' = Cu, Ag, Au, Ir; X, X' = N, O; Y, Y' = Si, C, Sn, Ge, B; Z, Z' = C, N, O; substituents represented by R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12 will vary depending on the ring atom to which they are attached). This invention is also directed to depositing metal and metal-containing films on a substrate, under ALD or CVD conditions, using the above novel compds. as precursors. Thus, reaction of dimethylaminochloromethyldimethylsilane with Mg in THF followed by treatment with cuprous chloride gave [-CuNMe2SiMe2CH2CuNMe2SiMe2CH2-].

L4 ANSWER 26 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:746727 CAPLUS

DN 136:69944
TI Preparation and structure elucidation of novel organoruthenium amidinates bearing η4-diene ligands
AU Hayashida, T.; Miyazaki, K.; Yamaguchi, Y.; Nagashima, H.
CS Graduate School of Engineering Sciences, Kyushu University, Kasuga, Fukuoka, 816-8580, Japan
SO Journal of Organometallic Chemistry (2001), 634(2), 167-176
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 136:69944
AB Novel Ru amidinate complexes bearing η4-cyclooctadiene (COD) or η4-norbornadiene (NBD) ligands were prepared, and their structures were elucidated by spectroscopy and crystallog. A disilver amidinate, Ag2{μ2,η-PhNC(H):NPh}2, was treated with either (η4-COD)Ru(MeCN)2Cl2 or (η4-NBD)Ru(pyridine)2Cl2 to form the corresponding bisamidinate complex, (η4-COD)Ru{η2-PhNC(H):NPh}2 (5a) or (η4-NBD)Ru{η2-PhNC(H):NPh}2 (5a'), resp., in moderate to good yield. Alternatively, (η4-COD)Ru{η2-iPrNC(Me):NiPr}2 (5b) or (η4-NBD)Ru{η2-iPrNC(Me):NiPr}2 (5b') was synthesized by reaction of [(η4-COD)RuCl2]n or (η4-NBD)Ru(pyridine)2Cl2 with Li{iPrNC(Me):NiPr}. Careful treatment of (η4-NBD)Ru(pyridine)2Cl2 with one equiv Li{iPrNC(Me):NiPr} gave a monoamidinate complex, (η4-NBD)Ru{η2-iPrNC(Me):NiPr}(pyridine)Br (6) as a good precursor for a mixed amidinate complex, (η4-NBD)Ru{η2-iPrNC(Me):NiPr}{η2-PhNC(H):NPh} (5c'), which was obtained by the reaction of 6 with Ag2{μ2,η-PhNC(H):NPh}2. Crystal structures of these complexes revealed the octahedral arrangement of the ligands.
RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 27 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:667597 CAPLUS
DN 136:30741
TI Synthesis and crystallographic characterization of dinuclear silver complexes supported by N,N'-diarylformamidinates
AU Radak, S.; Ni, Y.; Xu, G.; Shaffer, K. L.; Ren, T.
CS Department of Chemistry, University of Miami, Coral Gables, FL, 33124, USA
SO Inorganica Chimica Acta (2001), 321(1,2), 200-204
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 136:30741
AB Synthesis of two new disilver(I) complexes of diarylformamidinate bearing o-ethoxy (1) and m-butoxy substituents (2) is described. Crystallog. characterization revealed that each Ag center is supported primarily by two N centers in approx. co-linear geometry. Secondary coordination of ethereal O center to Ag was also observed in mol. 1. Conformational isomerism exists in the crystal of 2, and is attributed to the low energy-barrier free rotation of aryls. Crystal data: compound 1 crystallizes in orthorhombic space group Pbca, a 11.392(1), b 15.007(1), c 19.363(2) Å, Z = 4; compound 2 crystallizes in tetragonal space group P42/n, a 24.152(2), c 14.371(2) Å, Z = 8.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 28 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:757338 CAPLUS
DN 132:72773
TI Synthesis and Characterization of Functionalized N,N'-Diphenylformamidinate Silver(I) Dimers: Solid-State Structures and Solution Properties

AU Archibald, Stephen J.; Alcock, Nathaniel W.; Busch, Daryle H.; Whitcomb, David R.
CS Department of Chemistry, University of Kansas, Lawrence, KS, 66045, USA
SO Inorganic Chemistry (1999), 38(24), 5571-5578
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
AB Functionalized N,N'-diphenylformamidines and their deprotonated Ag(I) complexes were synthesized: Ag(I) N,N'-bis(4-alkylphenyl)formamidinate (alkyl = Me, Et, Bu, and n-hexadecyl, 1-4, resp.); Ag(I) N,N'-bis(4-trifluoromethylphenyl)formamidinate (5), Ag(I) N,N'-bis(3-methoxyphenyl)formamidinate (6), Ag(I) N,N'-bis(3-methylthiophenyl)formamidinate (7), Ag(I) N,N'-bis(2-methoxyphenyl)formamidinate (8), Ag(I) N,N'-bis(2-methylthiophenyl)formamidinate (9). The effects of increasing the coordination number of the Ag(I) centers by donor substituents on the Ph groups were studied by solution and solid-state studies. Variable-temperature 1H NMR (223-303 K) for 1-4 shows coupling between the proton attached to the amidinate C and the 107/109Ag centers at room temperature which is unaffected by cooling 2. For the four-coordinate complexes 8 and 9, such coupling is only observed on cooling. Mol. weight measurements recorded in solution by vapor pressure osmometry at 310 K show some aggregation to higher mol. weight species than simple dimers for 1-4 and 6, but 8 and 9 exist as discrete dimeric species. Measurement of thermal stability shows the expected increase in stability with increasing coordination number Compds. 8 and 9 were structurally characterized by x-ray methods. Both show four-coordinate Ag dimers bridged by two amidinate ligands with addnl. longer interactions with the ether oxygens or thioether sulfurs.
RE.CNT 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 29 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:585804 CAPLUS
DN 131:294738
TI Copper(II) complexes with some hexaaza macrocyclic ligands
AU Singh, Mamta; Nayan, Ram
CS Department of Chemistry, Hindu college, Moradabad, 244001, India
SO Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry (1999), 29(8), 1395-1410
CODEN: SRIMCN; ISSN: 0094-5714
PB Marcel Dekker, Inc.
DT Journal
LA English
AB The template condensation of the chlorocarbons CCl4, 1,1,2,2-tetrachloroethylene or 1,1,2,2- tetrachloroethane with diethylenetriamine in the presence of Cu(II) hydroxide in BuOH yields dimetallic Cu(II) complexes of the macrocyclic ligands 1,4,7,9,12,15-hexaaza-8,8,16,16-tetrachlorocyclohexadecane (HTCH), 1,4,7,10,13,16-hexaaza-8,9,17,8-tetrachlorocyclooctadeca-8,17-diene (HTOD) or 1,4,7,10,13,16-hexaaza-8,9,17,18-tetrachlorocyclooctadecane (HTCO), resp. The metal-free ligand hydrochlorides also were obtained by removing the metal as CuS from the acidic solns. of the corresponding complexes. The formulation of the macrocyclic complexes as [Cu2(HTCH)(H2O)2]Cl4.8H2O, [Cu2(HTOD)(H2O)2]Cl4.H2O and [Cu2(HTCO)(H2O)2]Cl4, and the ligands as C10H22N6Cl4.6HCl (HTCH.6HCl), C12H22N6Cl4.6HCl (HTOD.6HCl) and C12H26N6Cl4.6HCl (HTCO.6HCl) is supported by the elemental analyses, conductivity measurements, mol. wts. by mass spectroscopy and IR spectra.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 30 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:297682 CAPLUS
DN 131:96274
TI Theoretical study of the exchange coupling in copper(II) binuclear compounds with oxamidate and related polyatomic bridging ligands
AU Cano, Joan; Ruiz, Eliseo; Alemany, Pere; Lloret, Francesc; Alvarez, Santiago
CS Departament de Quimica Inorganica, Universitat de Valencia, Burjassot, Spain
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1999), (10), 1669-1676
CODEN: JCDTBI; ISSN: 0300-9246
PB Royal Society of Chemistry
DT Journal
LA English
AB A theor. d. functional study of the exchange coupling was carried out for binuclear Cu(II) compds. with oxamidate and related bridging ligands: oxalate, oxamate, ethylenetetraamidate, dithiooxamidate, dithiooxalate, tetrathiooxalate, bipyrimidine, and bisimidazole. Model calcns. were used to examine the influence of the donor atoms at the bridging ligand and of the ligands' orientation on the coupling constant Ests. for the singlet-triplet gap of complete structures of cis- and trans-oxamidato-bridged complexes are reported. Comparison of these results with those obtained from qual. models provides some insight into the limits of applicability of these methods for the study of magneto-structural correlations.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 31 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:331686 CAPLUS
DN 129:45503
TI Theory of d10-d10 Closed-Shell Attraction. III. Rings
AU Pyykkoe, Pekka; Mendizabal, Fernando
CS Department of Chemistry, University of Helsinki, Helsinki, FIN-00014, Finland
SO Inorganic Chemistry (1998), 37(12), 3018-3025
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
AB We study the dependence of the intramol. MI-MI interaction on electron correlation effects in eight-membered rings of type [M2(PH2CH2PH2)2]2+, [M2(NHCHNH)2], [M2(SCHS)2] (M = Au, Ag, Cu), [Au2(PH2CH2PH2)2]Cl2, halogenometal(I) [M2X4]2- (M = Au, Ag, Cu; X = Cl, Br, I), and [Au2Te4]2- at the quasirelativistic pseudopotential ab initio MP2 and Hartree-Fock levels. The intramol. MI-MI distances, R, at the MP2 level fall in the same range as the exptl. ones. The R values are reduced from HF to MP2 level. All the calcns. suggest that correlation effects are essential. The reduction of R depends on the particular M-L combination (L = ligand). In the rings, short CuI-CuI distances are recovered for the first time. The explicit inclusion of the counterions is unimportant for MI and essential for MII, as shown by a study of the oxidative addition of Cl2 to the model [Au2(CH2PH2CH2)2]. The Au(I) is then oxidized to Au(II), and the Au-Au distance is shortened to 261 pm, corresponding to a σ bond. This value is in agreement with experiment
RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 32 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:165868 CAPLUS
DN 128:248833
TI Theoretical Studies of Ag-Ag Closed-Shell Interaction in the Silver(I)

Dimer Bis-μ-(5,7-dimethyl[1,2,4]triazolo[1,5-a]pyrimidine) Dinitrato Disilver(I): A RHF and Density Functional Study
AU El-Bahraoui, Jaouad; Molina, Jose Molina; Olea, Dolores Portal
CS Grupo de Modelizacion y Diseno Molecular Instituto de Biotecnologia, Universidad de Granada, Granada, 18071, Spain
SO Journal of Physical Chemistry A (1998), 102(14), 2443-2448
CODEN: JPCAFH; ISSN: 1089-5639
PB American Chemical Society
DT Journal
LA English
AB Calcns. on [Ag(NHCHNH)]2 and [Ag(dmtp)(NO3)]2 complexes have been performed at RHF, DFT (B3LYP), and MP2 levels. Geometry optimizations have been performed on both compds. comparing the result obtained with the different levels of theory and basis set against the available exptl. X-ray data. The existence of M···M interaction at the different levels has been studied on both complexes using the Bader "Atoms in mols." methodol.
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 33 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:127260 CAPLUS
DN 128:200047
TI Synthesis and characterization of some dinuclear tetraaza macrocyclic complexes of copper(II)
AU Singh, Mamta; Nayan, Ram
CS Department of Chemistry, Hindu College, Moradabad, 244 001, India
SO Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry (1998), 28(1), 87-104
CODEN: SRIMCN; ISSN: 0094-5714
PB Marcel Dekker, Inc.
DT Journal
LA English
AB The template synthesis of dimetallic macrocyclic Cu(II) complexes of 1,5,7,11-tetraaza-6,6,12,12-tetrachlorocyclododecane (TTDE) ([Cu2(TTDE)(H2O)4]Cl4.8H2O), 1,5,8,12-tetraaza-6,7,13,14-tetrachlorocyclotetradeca-6,13-diene (TTTD) ([Cu2(TTTD)(H2O)4]Cl4.16H2O) and 1,5,8,12-tetraaza-6,7,13,14-tetrachlorocyclotetradecane (TTTE) ([Cu2(TTTE)(H2O)4]Cl4.8H2O) involving condensation of 1,3-diaminopropane with the tetrachlorocarbons CCl4, 1,1,2,2-tetrachloroethylene and 1,1,2,2-tetrachloroethane, resp., is described. The metal-free macrocycle hydrochloride TTDE.4HCl also was isolated. The macrocyclic compds. were characterized by anal. and spectral studies.
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 34 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1997:314951 CAPLUS
DN 127:5420
TI Living Polymerization of Carbodiimides Initiated by Copper(I) and Copper(II) Amidinate Complexes
AU Shibayama, Koichi; Seidel, Scott W.; Novak, Bruce M.
CS Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA, 01003, USA
SO Macromolecules (1997), 30(11), 3159-3163
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB Robust catalysts based on copper(I) and copper(II) amidinate complexes initiate living polymerization of carbodiimide. The tolerance of these complexes to impurities is illustrated by the fact that they cleanly initiate the polymerization of carbodiimides under air and oxygen. They are even active in

the presence of water, but both mol. wts. and yields tend to be lower than in dry solvents. The catalytic activity of a copper(II) amidinato complex is almost equal that of reported titanium(IV) initiators. Both oxidation states are active, but Cu(II) complexes are more active in terms of rates of reaction. Regardless of the oxidation state of the initial complex, all polymns. run in the presence of oxygen proceed through the Cu(II) oxidation state. Mechanistic studies indicate that the carbodiimides insert into one of the copper-amidinate bonds, thus becoming the end group of the growing polymer chain. The resultant polycarbodiimides from bulk polymns. were isolated, after dissolving to toluene, by precipitation into excess methanol, and lyophilization from benzene, as a spongy white solid. Anal. of these systems by gel permeation chromatog.-light scattering measurements (GPC-LS) and preliminary kinetic anal. suggest this system to be living. Polycarbodiimides adopt extended-chain, helical conformations; data from X-ray scattering studies and mol. modeling indicate that polycarbodiimides display a 6/1 helix in the solid state, and viscometry and light scattering data indicate that this extended-chain conformation persists in solution

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 35 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1996:42096 CAPLUS
DN 124:102454
TI Tetrakis(N,N'-diphenylbenzamidinato)dicopper(II) dichloromethane solvate
AU Halfpenny, Joan
CS Dep. Chem. Phys., Nottingham Trent Univ., Nottingham, NG11 8NS, UK
SO Acta Crystallographica, Section C: Crystal Structure Communications (1995), C51(12), 2542-4
CODEN: ACSCEE; ISSN: 0108-2701
PB Munksgaard
DT Journal
LA English
AB The title compound, [Cu2(C19H15N2)4].2CH2Cl2, forms a cage structure with 4-fold symmetry. The cage comprises two Cu atoms lying on the axis and four bridging ligand units related by the 4-fold rotation. The ligand units also have .apprx.2-fold axial symmetry. The Cu1-Cu2 separation of 2.460(2) Å is consistent with a single-bond distance. The metal-ligand distances, Cu1-N1 of 2.020(5) and Cu2-N2 of 2.027(4) Å, are effectively equal. A cavity within the structure is occupied by disordered mols. of CH2Cl2 solvent. Crystallog. data and atomic coordinates are given.

L4 ANSWER 36 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:551162 CAPLUS
DN 117:151162
TI Process for preparation of copper-formamidine complex
IN Podder, Chiraranjan; Schlesmann, Harro
PA Bayer A.-G., Germany
SO Ger. Offen., 3 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4039449	A1	19920617	DE 1990-4039449	19901211
PRAI	DE 1990-4039449		19901211		

OS CASREACT 117:151162
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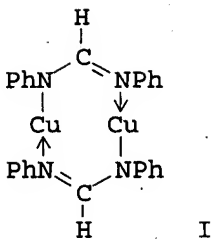


I

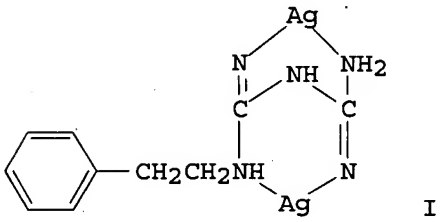
AB A process for preparation of Cu(I)-formamidine complex I is described. Thus, a solution of aniline, formanilide and CuCl was refluxed in xylene with removal of H2O to give I in quant. yield.

L4 ANSWER 37 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1988:561021 CAPLUS
DN 109:161021
TI Experimental and theoretical studies of the copper(I) and silver(I) dinuclear N,N'-di-p-tolylformamidinato complexes
AU Cotton, F. Albert; Feng, Xuejun; Matusz, Marek; Poli, Rinaldo
CS Dep. Chem., Texas A and M Univ., College Station, TX, 77843, USA
SO Journal of the American Chemical Society (1988), 110(21), 7077-83
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB This work addresses the question raised by many compds. in which short metal-metal distances might be taken to imply the existence of M-M bonds, but 1st-order, qual. bonding theory is ambiguous, the answer depending on the degree of participation of outer (s,p) valence orbitals. M2(form)2 (M = CuI or AgI; formH = p-CH3C6H4NCHNHC6H4-p-CH3) were prepared and characterized by x-ray crystallog. and visible spectroscopy. Their electronic structures in the ground state were studied by SCF-Xα-SW MO calcns. Although the metal-metal distances are short (Cu-Cu = 2.497(2) and Ag-Ag = 2.705(1) Å), there is little or no direct metal-metal bonding. Valence shell s and p orbitals of the metals play a prominent role in metal-ligand bonding but do not provide a basis for metal-metal bonding. Crystallogr. data are given.

L4 ANSWER 38 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1988:123074 CAPLUS
DN 108:123074
TI Elucidation of the geometry of the dipotassium bis(biuretato)cuprate(II) dimer by simulation of its EPR spectra
AU Mattar, Saba M.
CS Dep. Chem., Univ. New Brunswick, Fredericton, NB, E3B 6E2, Can.
SO Journal of Physical Chemistry (1988), 92(5), 1062-5
CODEN: JPCHAX; ISSN: 0022-3654
DT Journal
LA English
AB The axial interactions of the bis(biuretato)cuprate(II) complex in basic media were investigated. The Cu-biuret complex interacts in an axial fashion with ethylene glycol but interacts only marginally with EtOH. It undergoes dimerization to the tetrakis(biuretato)dicuprate(II) complex at 110 K. The simulation of the originally forbidden half-field transition indicates that the 2 Cu complexes forming the dimer interact axially. In the presence of ethylene glycol, the dimerization does not occur because the axial sites are blocked by the glycol.

L4 ANSWER 39 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1985:105059 CAPLUS
DN 102:105059
TI Synthesis and characterization of a new antidiabetic complex of

β-phenethyl biguanide with silver(I)
AU Kazmi, S. A. Iqbal; Desnavi, Asmi; Gani, Khalid
CS Res. Lab. Chem., Saifia Coll., Bhopal, 462 001, India
SO Journal of Scientific Research (Bhopal, India) (1983), 5(1), 49-51
CODEN: JSREDL; ISSN: 0253-7230
DT Journal
LA English
GI



I

AB Ag2L (I, H2L = phenformin) was prepared and characterized by elemental anal., IR spectral, and conductometric titration methods. Stability constant and free energy change of the complex were calculated as log K = 6.0547 and ΔF = -8.3394 kcal mol-1.

L4 ANSWER 40 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1984:113898 CAPLUS
DN 100:113898
TI Studies of amidino complexes of copper(I) and -(II). Carboxylate analogs
AU Kilner, Melvyn; Pietrzykowski, Antoni
CS Dep. Chem., Univ. Durham, Durham, DH1 3LE, UK
SO Polyhedron (1983), 2(12), 1379-88
CODEN: PLYHDE; ISSN: 0277-5387
DT Journal
LA English
AB LiL (HL = RC(NR1)NR1H, R = H, CH3, C6H5; R1 = C6H5, p-CH3C6H4) react with CuCl2 to form [CuL2]n, and with CuCl to form [CuL]m. The Cu(II) complexes are diamagnetic, purple solids, which are air stable in the solid state but very air reactive in solution Exptl. data are consistent with a dimeric or more highly associated structure, and an x-ray structural determination shows [Cu(C6H5C(NPh)2)2]2 to be dimeric with 4 bridging amidino-groups and a short Cu-Cu distance (2.46 Å). The Cu(I) complexes are pale yellow solids, which in solution are subject to rapid aerial oxidation, especially in the presence of free amidines, and disproportionation to [Cu{R1NC(R)NR1}2]n and Cu. Differences in properties are noted between acetamidino-, benzamidino- and formaidino-complexes, the last complexes of Cu(I) being most stable towards disproportionation. CuL12 (HL1 = H3C(NPh)NPhH) reacts with pyridine (py) to form CuL1(py)2 and with CS2 to form CuL12(CS2) which is reduced to form CuL1(CS2).

L4 ANSWER 41 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1980:41296 CAPLUS
DN 92:41296
TI Complexes of N,N'-substituted formamidines. I. Compounds [M(RNC(H)NR')]n (M = copper(I), silver(I); R = p-tolyl; R' = alkyl; n = 2,4) and study of the dimer-dimer and dimer-tetramer equilibriums in solution
AU Van Vliet, P. I.; Van Koten, G.; Vrieze, K.
CS J.H. van't Hoff Inst., Univ. Amsterdam, Amsterdam, 1018 WV, Neth.
SO Journal of Organometallic Chemistry (1979), 179(1), 89-100
CODEN: JORCAI; ISSN: 0022-328X
DT Journal

LA English
AB A series of complexes [M(RNC(H)NR']n (M = CuI, AgI; R = p-tolyl; R' = Me, Et, Me2CH, Me3C, cyclohexyl; n = 2, 4) has been prepared 1H and 13C NMR studies, as a function of temperature, concentration, metal atom and alkyl substituent, show the presence of dimeric and tetrameric isomers. Starting with the 2 possible dimers, it requires only 1 metal-nitrogen bond in each dimer to be broken and 2 new metal-N bonds to be formed to give 4 tetrameric isomers. These studies show that; (i) the dimer/tetramer ratio increases at higher temps.; (ii) the size of the alkyl substituents dets. the relative ratio of the tetramer; (iii) the dimer/tetramer ratio increases with increasing bulkiness of the alkyl substituents, and (iv) the dimer/tetramer ratio increases when AgI is replaced by CuI.

L4 ANSWER 42 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1975:442514 CAPLUS
DN 83:42514
OREF 83:6715a,6718a
TI Insertion of phenyl isocyanide into ethanol catalyzed simultaneously by copper(I) and base
AU Knol, D.; Van Os, C. P. A.; Drenth, W.
CS Lab. Org. Chem., Univ. Utrecht, Utrecht, Neth.
SO Recueil des Travaux Chimiques des Pays-Bas (1974), 93(12), 314-16
CODEN: RTCPA3; ISSN: 0165-0513
DT Journal
LA English
AB The insertion of PhNC into EtOH under the influence of base and Cu(PhNC)4BF4 is investigated mechanistically. In pre-equilibria the BF4- anion is exchanged for EtO-. By intramolecular nucleophilic attack of EtO- on coordinated isocyanide an [(ethoxy)(phenylimino)methyl]copper intermediate is formed. The substituent effect supports this conclusion. In a rapid reaction with ethanol the intermediate decomposes and the insertion product, Et N-phenylformimidate, is formed. It reacts slowly to give N,N1-diphenylformamidine, which is precipitated at the end of the reaction as a copper complex.